

1121-05-231 **Kevin Dilks*** (kevin.dilks@ndsu.edu). *q-Gamma Nonnegativity*. Preliminary report.

One special class of polynomials that has historically been of interest has been those with all real roots. In the case where a polynomial has non-negative and symmetric coefficient sequence, a weaker condition than real rootedness is having a non-negative expansion with respect to a distinguished basis . A number of combinatorial polynomials are known to expand positively in this basis, with the coefficients given either by an explicit formula or by a weighted sum over some distinguished set of combinatorial objects. In this talk, we will describe some natural q -analogs of these gamma nonnegativity expansions. The q -analogs of expansions given by explicit formulas are proved, and those with combinatorial interpretation are conjectured, both of which suggest further refinement of what is known combinatorially about the univariate formulas. (Received July 18, 2016)